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ABSTRACT

Graduates of 20 Sixth Cycle Teacher Corps Projects were compared with other young teachers in terms of their teaching behaviors and effectiveness with low income/minority children. Teacher Corps graduates were superior on many of the skills and attitudes desired by Teacher Corps projects, including developing ethnically relevant curricula, using community resources in teaching, and initiating contact with parents. Teacher Corps graduates facilitated greater self-concept development in pupils as assessed by both the self-concept scale and the classroom interaction guide. However, there was no difference between the two groups of teachers in terms of facilitating pupil reading gain. (Author)

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THE EFFECTIVENESS OF TEACHER CORPS GRADUATES: A NATIONAL ASSESSMENT

A Paper Presented at the Annual Meeting of the
American Educational Research Association in
New York City in April, 1977

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This paper describes the methodology and findings of the second year of a two year study of Teacher Corps, a teacher training program funded through the U. S. Office of Education. The Teacher Corps has been recognized as an innovative teacher training program preparing teachers especially trained to work with low income/minority children. Training at Teacher Corps projects has featured competency-based field-centered training coupled with collaborative project decision-making and a strong multicultural emphasis.

The first year (Phase I) of the study focused on identifying and analyzing those combinations of intern background characteristics and Teacher Corps program characteristics that were related to desired teaching skills and attitudes of interns at the end of their training. The results of the first year's study were published under separate cover.[1]

The second year (Phase II) of the study assessed the effectiveness of Teacher Corps graduates in working with low-income/minority group children.[2] The goals for this phase of the study were:

1. To contrast the teacher performance and pupil learning gains of Teacher Corps graduates with those of control group teachers.
2. To analyze the relationship of teacher background, teacher education program, teacher performance and pupil performance for the Teacher Corps graduates.

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[1] David D. Marsh, et al., A Study of Teacher Training at Sixth-Cycle Teacher Corps Projects, 3 vols. Berkeley, Calif., Pacific Training and Technical Assistance Corporation, 1974. (ERIC No. ED098240, ED098241, ED102098)

[2] David D. Marsh, et al., A Study of the Effectiveness of Sixth-Cycle Teacher Corps Graduates. Berkeley, Calif., Pacific Training and Technical Assistance Corporation, 1974. (ERIC No. 098235, ED106274)

3. To assess the effects of the professional support which Teacher Corps graduates and controls receive upon their teacher performance and effectiveness.

This paper will discuss only the first two objectives which were the major focus of the study.

Sample. Graduates of Sixth-Cycle Teacher Corps projects were first year teachers during the 1973-74 school year. Eighty-four of these graduates were available for inclusion in the second year study. These were teachers who taught in grades 2-6 in school districts that would allow us to administer reading and self-concept tests to pupils. Moreover, these were graduates who taught reading to the same children over the entire school year. In order to answer some of the research questions, these graduates were matched with other young teachers in the same school district who taught the same type of child at the same grade level. Data about pupil achievement were gathered from all pupils taught by these teachers.

Teacher Performance Variables and Instruments. During the first year of the study, seven training goals were identified which the 20 elementary school Teacher Corps projects in the study held in common. For each goal, a set of 3-6 specific variables were identified, and corresponding measures of these variables were either developed or adapted for use in the study.

An initial step in the first year's data analysis was the simplification of the teacher performance data by means of factor analysis. Data pertaining to each of the seven training goals were included in a separate factor analysis. The result was the creation of 34 teacher performance factors which were used in analyzing the relationship of intern background characteristics and Teacher Corps program characteristics to intern teacher performance characteristics.

In preparation for the collection of teacher performance data in Phase II, the teacher performance factors from Phase I were examined by the project staff. For each teacher performance factor developed in Phase I, an individual variable was identified which loaded heavily on that factor. For example, from Figure 1 it can be seen that the variable "Number of Hours Per Week Using (All) Instructional Strategies" is highly related, empirically, to the factor "Diversity of Instructional Modes Used in Classroom." In Phase II, the individual variable was used as a substitute for the entire factor, hence greatly simplifying the data collection and analysis.

Some factors from Phase I were not used in the Phase II data collection. In some cases, data critical to the construction of that factor came from Teacher Corps team leaders. No suitable role group could replace the team leaders and thereby provide the needed data in the Phase II data collection. In other cases, the factor was excluded because it was a duplicate of another factor.

The teacher performance variables used in Phase II are presented in Figure 1. In addition to the individual teacher performance variables (TP1-TP23), the analysis of teacher performance utilized clusters of teacher performance variables (STP1-STP7). Scores for these teacher performance clusters were derived by adding the scores of specified teacher performance variables, once the individual teacher performance variables had been rescaled, so that all variables could range from 0 to 100.

Data on teacher performance were gathered by means of two instruments: The Teacher Questionnaire and The SRI Classroom Observation Guide. The Teacher Questionnaire obtained information about the teacher's utilization of community resources, action as a change agent, development of new curriculum materials, and perceptions of problems related to schooling. Except for the two attitude tests, the questions were developed specifically for this study.

Teacher Performance Clusters		Variables that Combine to Form the Clusters	
STP1	Utilization of Community Resources	TP1	Teacher utilizes school and community resources
		TP2	Teacher initiates contact with parents
STP2	Action as a Change Agent in the School	TP3	Teacher perception of importance of bringing about change in the school
		TP4	Teacher practice of bringing about change in the school
STP3	Lesson Planning and Materials Development	TP5	Teacher introduces culturally relevant new curriculum
		TP6	Teacher plans lesson with teaching team
		TP7	Extent of all materials development and lesson planning by teacher
STP4	Classroom Performance: Affective Tone	TP8	Extent of teacher/pupil interaction
		TP9	Extent of positive teacher behavior

Figure 1

Clusters of Teacher Performance
Variables Used in Phase II

Teacher Performance Clusters		Variables that Combine to Form the Clusters	
		TP10	Range of teacher positive and negative behavior
STP5	Classroom Performance: Teacher Response Strategies	TP13	Teacher gives acknowledgement
		TP14	Teacher gives praise
		TP15	Teacher gives corrective feedback in academic area
STP6	Individualization of Instruction	TP16	Degree that instructional choices are given to pupils
		TP17	Extent that pupils work independently or in small groups
STP7	Perception of Problems Related to Schooling	TP23	Teacher perceives poverty as due to society at large

Figure 1

Clusters of Teacher Performance
Variables Used in Phase II
(Continued)

The variable "teacher perceives reading difficulties of pupils as due to teacher" (TP22) is a variable which measures the teacher's sense of locus of control about pupils' reading development. A high score on TP22 would reflect a teacher who believes he/she has a great deal of control over a pupil's reading development. Such a teacher would agree with statements that reading difficulties are due to:

- How much teacher preparation goes into a reading lesson
- How much creativity the teacher has
- The ability of the teacher to communicate with her students

A low score on TP22 would reflect a teacher who believes the control of reading development is external to the teacher. TP22 was measured using an 18 item Likert scale developed by Vasquez for an evaluation of the National Right to Read Program.[3]

The variable TP23 explores a teacher's attitude about the causes of poverty. This variable, like the assessment of reading difficulties described above, taps the teacher's sense of locus of control. The scale was developed by Feagin.[4] The teacher may see poverty as due to efforts of the individual or as due to society.

The SRI Classroom Observation Guide was developed by Dr. Jane Stallings as part of an evaluation of Project Follow Through.[5] Most of the data used in this

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[3] See James A. Vasquez. The Relationship of Teacher Locus of Control to Teacher Characteristics and Student Reading Gains. Unpublished Ph.D. dissertation, UCLA, 1973.

[4] Joseph R. Feagin, "Poverty: We Still Believe that God Helps Those Who Help Themselves, "Psychology Today, 6. November, 1972, p. 101-110.

[5] Jane Stallings and David Kaskowitz, Follow Through Classroom Observation Evaluation 1972-1973. Menlo Park, Stanford Research Institute, 1974.

study come from a section of the guide known as the five - minute - observation (FMO). The FMO provides a record of the interaction between teacher and pupils over a five minute period of time. The interaction is recorded on a series of frames. Each frame provides data that could be expressed as an interaction sentence: Who, To Whom, What and How. Twenty-five trained classroom observers achieved a high inter-rater reliability (r = .82) following 5 days of training by SR1 staff. Each teacher was observed four times across two days teaching any academic subject.

Pupil Variable and Instruments. Pupil variables were used as indicators of teacher effectiveness in this study. The pupil variables covered the general areas of reading gain, self-concept gain, school attendance and pattern of pupils' classroom interaction. Appropriate levels of the Metropolitan Achievement Test were used to assess word knowledge, reading comprehension and total reading gain over the year.

The Piers - Harris Self Concept Scale was selected for the study as it was the only self-concept Scale appropriate for grade school children which the Center For the Study of Evaluation rated as suitable in a pre-test, post-test research design.[6] Manufacturers of the scale present evidence of the test's reliability and sensitivity.[7] The scale was shown to be sensitive enough to detect gains in self-concept resulting from a specially designed one year school program. These data suggest that the scale could reasonably be expected to assess self-concept gains of pupils taught by the teachers in the study.

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[6] See Ralph Hoepfner, et al., CSE-RBS Test Evaluation: Tests of Higher Order Cognitive, Affective and Interpersonal Skills, Los Angeles, Center for the Study of Evaluation, 1972.

[7] Ellen V. Piers, Manual For the Piers-Harris-Children's Self-Concept Scale, Nashville, Tennessee, Counselor Recordings and Tests.

The scale has 80 items which yield a total self concept score and a score on each of six sub-scales derived by factor analysis by the instrument developers. The sub-scales are good behavior, attitude toward school, physical behavior, lack of anxiety, popularity, happiness and satisfaction.

Pupil variables associated with patterns of pupil behavior in the classroom were drawn from the list of pupil variables which SRI developed for the SRI Classroom Observation Guide. These variables were pupil initiating interaction with teacher, pupil instructing self or other pupils, pupil displays happiness or feelings of self-worth, and pupil makes task-related comment. For each teacher, eight pupils were selected at random and observed for 15 minutes each. Average scores for each classroom constituted the variable.

Data Analysis. For the teacher performance variables (TP1-23) Teacher Corps graduates and the control teachers were compared using one-way multivariate and one-way univariate analysis of variance. Comparison of the two groups of teachers on the reading and self-concept development was done using multiple one-way analysis of covariance. The post-test class mean was the dependent variable, training was the analysis of variance factor and pre-test class mean was the covariate. The relationship of teacher performance to pupil growth was explored using correlation and cannonical correlation as well as discriminant analysis.

Summary of Findings

Teacher Corps and control group teachers were compared on each of the teacher performance variables and on the clusters of teacher performance variables. The most important findings are presented here. The tables concerning teacher performance are too bulky to include in this paper. The reader is referred to pages 58-62 of the final report. The Teacher Corps graduates were most different from control group teachers in terms of:

- Developing ethnically relevant curricula
- Using community resources in teaching and initiating contact with parents
- Positive attitudes about reading development and causes of poverty in the society

These variables reflect a special concern about low income/minority group children on the part of the graduate. This emphasis is consistent with the training goals of many Sixth-Cycle Teacher Corps projects.

A consistent difference between Teacher Corps and control teachers was in terms of using community resources in teaching and initiating contact with parents. This difference was unexpected. While Teacher Corps projects in Phase I placed considerable emphasis on such activities, it was expected that these "luxuries", requiring special time and energy, would soon be done away with due to the demanding schedule of a first year teacher.

A second consistent difference between Teacher Corps and control teachers, the teacher's attitudes about reading development and causes of poverty, was also consistent with the training goals of Teacher Corps projects studied in Phase I.

Regarding attitudes about poor reading development in pupils, Teacher Corps graduates believed they had more control over a pupil's reading development. They were more likely to agree with statements that reading difficulties are due to:

- How much teacher preparation goes into a reading lesson
- How much creativity the teacher has
- The ability of the teacher to communicate with his/her student

Control group teachers, on the other hand, were more likely to blame poor reading ability on such things as:

- How much the student cares about learning to read
- The socioeconomic background of the student

Similarly, control group teachers were more likely to blame poverty on such things as lack of effort by poor persons whereas Teacher Corps graduates were more likely to blame poverty on low wages and the failure of society to provide good schools for many Americans.

There was no difference between the two groups of teachers in terms of their perception of the importance of bringing about educational change in the school. In addition, there were no differences in their actual practice in attempting to bring about this change. There were also no differences between Teacher Corps graduates and controls on any teacher performance variable based on classroom observation of the teacher. More specifically, Teacher Corps graduates and controls did not differ in terms of the observed affective tone in the classroom, teacher questioning, structuring or response strategies or the degree of attention given pupil behavioral problems in the classroom. Thus, rather clear and consistent differences between Teacher Corps graduates and controls on such things as the introduction of

culturally relevant materials or the use of community resources did not generalize to such areas as being a change agent in the school or the interaction between teacher and pupils in the classroom as assessed by the teacher performance measures used in the study.

Teacher Effectiveness. Teacher effectiveness was assessed in terms of pupil growth in reading, self-concept, school attendance and selected classroom interaction variables. There were no significant differences between Teacher Corps and control group classes on any reading measure despite a greater emphasis on reading instruction and academic subject matter on the part of control group teachers in grades 2-3.

However for children in grades 4-6, Teacher Corps graduates were able to bring about changes in a child's self-concept that were significantly greater than changes brought about by control group teachers as seen in Table 1. These changes were measured by observed expressions of greater happiness and greater self-worth in the classroom and better scores on important sub-scales of the self-concept scale. This validation by classroom observation and paper and pencil attitude tests is very important.

Of particular importance were two sub-scales on the self-concept scale. These were two of three sub-scales on which pupils of Teacher Corps graduates scored significantly higher than did pupils of control group teachers. The first is a child's self-concept about his physical appearance and attributes. This sub-scale includes items such as "I am good looking", "I have a pleasant face", and "I have a bad figure".

Many children have real concerns about their body image and appearance. Children from many minority groups are often burdened with the additional problem of racial and ethnic discrimination related to physical characteristics. In this

Table 1

Regression Coefficients and Significance Tests
For Reading and Self-Concept Variables

		Pupil Variables for Grade 4-6	Teacher Corps b	Teacher Corps S.E.	Control b	Control S.E.	t of slope difference	p	Technique for Significance Test of Means*	F	p	Superior Group
Reading	P1	Word Knowledge	0.914	0.052	0.921	0.050	.10	NS	A	.54	NS	-
	P2	Reading	0.933	0.056	0.909	0.042	.34	NS	A	2.23	NS	-
	P3	Total Reading	0.932	0.051	0.916	0.042	.24	NS	A	1.13	NS	-
Self-Concept	P4	Good Behavior	0.708	0.102	0.743	0.115	.23	NS	A	.04	NS	-
	P5	School Status	0.551	0.095	0.853	0.117	2.00	<.05	D	.39	NS	-
	P6	Physical Appearance	0.779	0.091	0.647	0.134	.81	NS	A	2.68	<.10	TC
	P7	Lack of Anxiety	0.375	0.132	0.768	0.100	2.37	<.025	D	.01	NS	-
	P8	Popularity	0.431	0.124	0.666	0.129	1.31	NS	A	2.51	<.10	TC
	P9	Happiness and Satisfaction	0.247	0.150	0.727	0.105	2.62	<.025	D	3.39	<.10	TC
	P10	Total Self-Concept	0.564	0.097	7.003	0.115	12.92	<.025	D	1.43	NS	-

*A=Analysis of co-variance of post scores adjusted by pre-score (used when b's are not significantly different).
D=Analysis of variance of differences between pre and post test scores (used when b's are significantly different).

context, the minority group child's self-concept about his/her physical appearance is especially important but also is especially difficult to improve. Consequently, it is remarkable that Teacher Corps graduates could bring about significantly greater gain on this sub-scale within one school year.

The second sub-scale pertains to a child's feeling of happiness and satisfaction. Typical items from this sub-scale are "I am a happy person", " like being the way I am", and "I wish I were different". These items are directly related to a child's satisfaction and happiness with himself. As such, this sub-scale may be more central to a child's attitude about himself than are several of the other sub-scales such as good behavior, intellectual and school status, and lack of anxiety. Thus it is doubly unusual that Teacher Corps graduates could bring about significiantly greater gain in pupils on both their attitude about their physical appearance and attributes and their sense of happiness and satisfaction with themselves.

On the classroom interaction variables there were several interesting differences between the two groups. For grades 2-3, control group teachers had pupils who initiated questions and comments to the teacher far more often than the pupils of Teacher Corps graduates. On the other hand, pupils of Teacher Corps graduates, in grades 4-6, displayed behavioral indicators of happiness and self-worth more often than did pupils of the control group teachers. Indicators of happiness included obvious behavioral expressions of happiness or positive affect, such as laughing, smiling and giggling. Expressions of self-worth included such things as a child's statements of self-worth, self-praise or self-esteem; exclamations of accomplishment, and positive remarks about one's self including bragging. Hence, for grades 4-6, pupils in classes taught by Teacher Corps graduates expressed feelings of greater happiness, greater self-worth and a better self-concept both on the self-concept test and in their behavior in the classroom.

Teacher Performance Related to Pupil Growth

The most straightforward and concise results regarding the relationship of teacher performance variables to total reading gain and total self-concept gain come from the canonical correlation analysis as presented in Table 2. Unusually large pupil gains in both reading and self-concept were most closely associated with a teacher who perceived that reading development was primarily a function of pupil characteristics such as how hard the pupil tries rather than teacher characteristics such as how carefully the teacher plans the lesson.[16] Unusually large gains were also associated with teachers who had a low level of teacher/pupil interaction and with the teacher's practice of bringing about change in the school, the teacher's practice of initiating contact with parents and the teacher's practice of planning lessons with a team of teachers.

Another set of teacher performance variables was related to an unusually large reading gain coupled with an unusually small self-concept gain. Such a combination of reading gain at the expense of self-concept gain was positively associated with a teacher who was highly directive in structuring the discussion and the classroom, and with a teacher who gave a good deal of corrective feedback to pupils. Reading gain at the expense of self-concept gain was also associated with a teacher who was below average in bringing about change in the school and who was below average in initiating contact with parents.

Several trends emerge from these data. The teachers who were successfully able to maximize both reading and self-concept gain had several characteristics in common. These successful teachers believed that pupil characteristics rather than teacher characteristics are most important in determining a child's reading development. It may be that these teachers trust in a child and his ability to learn more than do teachers who believe teacher characteristics are most important in

Table 2

Canonical Correlations of
Teacher Performance Variables and Pupil Variables

Pupil Variables	Correlation	Teacher Performance Variables		
		Coefficient	Variable Name	
Total Self-Concept + (.39) Total Reading	.83	-1.00	TP22	Teacher perceives reading failure of pupils as internal to teacher
		-.92	TP8	Extent of teacher/pupil interaction
		.79	TP4	Teacher practice of bringing about change in the school
		.58	TP2	Teacher initiates contact with parents
		.55	TP6	Teacher plans lesson with teaching team
Total Reading -(.45) Total Self-Concept	.630	1.00	TP12	Teacher is highly directive in structuring discussion and class
		-.95	TP4	Teacher practice of bringing about change in the school
		-.85	TP2	Teacher initiates contact with parents
		.62	TP15	Teacher gives corrective feedback in academic area
		-.60	TP1	Teacher utilizes school and community resources

determining a child's reading development. The successful teacher may have strengthened a child's internal locus of control, or may have communicated an expectation that the child will learn. In addition, the second teacher performance variable associated with large growth in both reading and self-concept suggests that these teachers also provided children with a chance to work independently. A low ratio of teacher/pupil interaction was highly related to the extent that children worked alone or in small groups.

Thus, it appears that successful teachers (related to pupil gain in both reading and self-concept) not only believed in the child's importance in the learning process but also provided children a chance to learn on their own. Moreover, such a teacher was also active in changing the school and in working with parents. In Phase I of this study it was found that teachers who were active in institutional change were not the teachers who were most involved with parents nor were they most effective in the classroom, as defined by certain teacher performance variables. In the case of successful teachers as discussed above, however, it appears that they are active on many fronts" school reform, contact with parents, and reading and self-concept gain with pupils.

A quite different type of teacher is able to bring about large reading gain but at the expense of the development of a positive self-concept in children. Such a teacher is highly directive in guiding the classroom discussion and uses corrective feedback extensively. Whereas the teacher who brought about both large reading and self-concept gains frequently allowed children to work independently, this type of teacher was often guiding children to the "right" answer by means of close-ended questions and corrective feedback. In addition, the teacher who was successful in both reading and self-concept development was frequently working with parents while the teacher who brought about high reading gain at the expense of self-concept gain was considerably below average in bringing about school reform or in initiating

contact with parents. It is very important to see that activities and attitudes of teachers about practices such as school reform and communication with parents were among the teacher performance variables most closely associated with pupil growth in both reading and self-concept development.